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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/477,637 01/03/00 ATCHINSON

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EXAMINER
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WARD, J

ART UNIT	PAPER NUMBER
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2875

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MMC2/0228  
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/477,637

Applicant(s)

Valentine et al

Examiner

John A. Ward

Group Art Unit

2875



☒ Responsive to communication(s) filed on Jan 3, 2000

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-23 is/are pending in the application

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-23 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, and 14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Bischoff, Jr. (US 6,158,882).
3. Bischoff, Jr. ('882) discloses a LED semiconductor lighting system comprising a plurality surface mounted light emitting diodes 42 (figure 4B), a flexible printed circuit board 30, and elongated light tube 14 that is transparent, or can tinted to illuminate a specific color (line 59-67, column 3 and line 1-14, column 4). Line 15-31 of column 2, discloses that the circuit board can either be rigid or flexible.

### 4. *Claim Rejections - 35 U.S.C. § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-13, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bischoff, Jr. as applied to claims 1 and 14 above, and further in view of Okuno (US 4,298,869) and in view of Tait et al (US 6,161,941).
7. Bischoff, Jr. discloses all the limitations of the claims, but does not disclose the operating voltage or the millicandle brightness of the light emitting diodes.
8. Okuno ('869) discloses a light emitting diode display comprising of a plurality of diodes D11-D85 connected in parallel connection (line 35-40, column 5) with a operating voltage of about 1.5-4 volt (line 65-66, column 4), having at least 6 diodes (line 29-33, column 6). Line 64-68, column 7 can be up to and including 150 volts,
9. Okuno does not teach the millicandle brightness of the light emitting diodes.
10. Tait et al ('941) discloses a light array system and method for making of objects arranged by imaging systems comprising of light emitting diodes 40 with a intensity factor of 3500 millicandles (line 34-38, column 10).
11. Regarding the dimensions of the circuit it would have been a design choice to construct the circuit in the dimension deemed need according to the dimension need of the housing that circuit board will be housed in.
12. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the light array of Dischoff, Jr with the power supply of Okuno

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and the bright LED as taught by Tait et al in order to provide a lighting apparatus that illuminate a interior space of a light tube as taught in the abstract of Bischoff, Jr.

13. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bischoff, Jr in view of Tait et al and in view of Yan (US 5,865,529).

14. Bischoff, Jr. ('882) discloses a LED semiconductor lighting system comprising a plurality surface mounted light emitting diodes 42 (figure 4B), a flexible printed circuit board 30, and elongated light tube 14 that is transparent, or can tinted to illuminate a specific color (line 59-67, column 3 and line 1-14, column 4). Line 15-31 of column 2, discloses that the circuit board can either be rigid or flexible.

15. Bischoff, Jr. discloses all the limitations of the claims, but does not discloses the millicandle brightness of the light emitting diodes or a viewing angle of at least 120 degrees.

16. Tait et al ('941) discloses a light array system and method for making of objects arranged by imaging systems comprising of light emitting diodes 40 with a intensity factor of 3500 millicandles (line 34-38, column 10).

17. Tait et al does not disclose a light emitting diode with a viewing of at least 120 degrees.

18. Yan ('529) discloses a light emitting diode lamp having a spherical radiating pattern comprising of a light emitting diode with having a viewing angle of 180 degrees (line 6-7, column 5).

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19. Regarding the dimensions of the circuit it would have been a design choice to construct the circuit in the dimension deemed need according to the dimension need of the housing that circuit board will be housed in.

20. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the light array of Dischoff, Jr with the viewing angle of Yang and the bright LED as taught by Tait et al in order to provide a lighting apparatus that illuminate a interior space of a light tube as taught in the abstract of Bischoff, Jr.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Ward whose telephone number is (703) 305-5157.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea, can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0596.

JAW

February 12, 2001

  
Stephen Husar  
Primary Examiner